IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/624,925	Confirmation No. 6764
Applicants	:	Russell E. Evans et al.	
Filed	:	July 21, 2003	
Title	:	METHOD OF MANUFACTURING OPTICAL-QUALITY POLARIZED PART INCORPORATING HIGH-IMPACT POLYURETHANE-BASED MATERIAL	
TC/A.U.	:	1732	
Examiner	:	Mathieu D. Vargot	
Docket No.	:	07K8-105546	
Customer No.	:	30764	

DECLARATION OF NANCY L. S. YAMASAKI UNDER 37 C.F.R. §1.131

I, Nancy L. S. Yamasaki, of Long Beach, California, declare that:

1. I am a joint inventor of the invention disclosed and claimed in the above-identified application.

2. Prior to November 2, 2000, Russell E. Evans, Thomas Balch and I, through our collective efforts, jointly conceived of methods of manufacturing an optical-quality polarized part, as presently claimed in the application. As evidence, I present with this declaration a table (Exhibit A) correlating claim elements to two sets of Russell Evans' research notes (Exhibits B and C, respectively); four flowcharts marked as Figures 1-4, prepared by me in preparation for the patent application (Exhibit D); and additional notes prepared by me in preparation for the patent application (Exhibit E). All of these documents were created prior to November 2, 2000. In the Exhibits, information directly related to the claim elements are numerically labeled in the margins for easier reference; dates and other information not needed to correlate to the claim elements have been redacted.

3. The documents provided in Exhibits B-E combine to depict all of the elements of pending claims 13-32, as described by detailed reference in the table of Exhibit A.

4. Exhibits B and C describe two discrete sets of research experiments, both conducted directly by Russell Evans prior to November 2, 2000, using liquid-phase polymeric material to make optical-quality parts of high-impact polyurethane-based material. These experiments with the high-impact polyurethane-based material were conducted both with and without polarizers, in order to further evaluate the methods of manufacturing. The experiments demonstrate the development of manufacturing concepts by the inventors, and preliminary evaluation of embodiments of those concepts.

5. Furthermore, Russell Evans' notes in Exhibits B and C describe experiments in making optical-quality parts of high-impact polyurethane-based material using sidefill gasket technologies. This is evidenced, for example, by reference to a "Double Port" in Exh. B, point 4, and points 2-3 in Exh. C, which comment that [an] occasional bubble may be due to: "Position of Fill Port (closer to back)", and "Early design gasket [freehand sketch of gasket ports included] Better Very few bubbles." Earlier development of these sidefill gasket technologies is described in the inventors' U.S. Patent No. 6,391,231, assigned to Younger Mfg. Co.

6. Russell Evans' notes in Exhibits B and C further comment on the importance of a reservoir on the gasket. This is evidenced, for example, by reference to "Need Reservoir on gasket" at point 2a in Exhibit B, and the comment at point 2b that "Bubbles result of Ø Reservoir." The "Ø" symbol is a quick abbreviation for "zero" or "lack of." In this context, "bubbles" refer to voids in the lens structure. Russell Evans' observation that "Bubbles result of Ø Reservoir" identifies recognition that shrinkage of the material is causing a void, and a reservoir of additional material to supply more material is needed. Further development of this

concept is evidenced by the comment in Exhibit C, point 4 "Gasket reservoir opening too small results in slight cavitation," which indicates that a prototype reservoir was tested by Russell Evans, but its design may not have been optimal.

7. Figures 1-4 of Exhibit D became Figs. 3-6, respectively, of patent application Serial No. 10/624,925.

8. Exhibit E constitutes excerpts from a lengthy document prepared by me to describe the invention to patent counsel. (Notes in the document of Exhibit E that were not necessary to correlate with the claim elements have been redacted.) As mentioned above, information directly related to the claim elements is numerically labeled in the margins for easier reference. In addition, many of the notes in Exhibit E were incorporated into the patent application, and are identified by the corresponding paragraph designations (in square brackets), as found in the published application.

9. In the text of Exhibit E, the common abbreviation of "PET" is used to identify polyethylene terephthalate.

10. The pre-November 2, 2000 documents provided in Exhibits B-E also evidence diligent reduction to practice. This took the form of both actual experiments as discussed in Exhibits B and C, and preparation for the constructive reduction to practice of the patent application, as shown in Exhibits D and E.

11. Similar efforts toward reduction to practice were continued by the inventors Russell Evans, Thomas Balch and me within the scope of our technical and business activities at least up to the time of the filing of the parent patent application, March 13, 2001.

12. The acts constituting our conception and diligent reduction to practice of the methods of manufacturing an optical-quality polarized part, as described in this declaration and the accompanying Exhibits, were carried out in the United States, at the times mentioned.

13. All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true. These statements were made with the knowledge that willful false statements are punishable by fine or imprisonment, or both under §1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: February 21, 2008

Nancy L. S. Yamasaki

Nancy L. S. Yamasaki

EXHIBIT A

Claim Text of 10/624,925	Supporting Evidence of Conception prior to November 2, 2000
Claim 13: A method of manufacturing an optical-quality polarized part comprising:	Exh. D, Figures 1-4 describe manufacturing methods.
forming a high impact polyurethane-based optical construct by admitting a liquid-phase polymeric material into a mold cavity,	Declaration of Nancy L. S. Yamasaki "Yamasaki Decl." at ¶ 4
wherein the liquid-phase polymeric material is formulated to set within about 30 seconds,	Exh. E, p.5, 1. "At step 30" refers to Exh. D, Fig.1.
and wherein the mold cavity is defined in part by a sidefill gasket including one or more inlet port holes	Exh. E, p. 8, 3. "09/447,445" refers to Younger Mfg. Co.'s US patent application " Method for side-fill casting", now US Patent #6,391,231; Exh. C, 3 "Early design gasket (sketch showing two offset port holes) better Very few bubbles"
for admitting the liquid-phase polymeric material into the mold cavity to fill the mold cavity within about 30 seconds	Exh. B, 1. "fill time 16 seconds"; Exh. C, 1. "Fill time approx 13 sec.s"
and further including an adjacent reservoir for supplying additional liquid-phase polymeric material into the mold cavity via the one or more inlet port holes as the admitted material shrinks during cure,	Exh. B., 2a. "Need reservoir on gasket"; Exh. B., 2b. "Bubbles result of Ø (lack of) reservoir"; Exh. C, 4. "Gasket reservoir opening too small results in slight cavitation"
and bonding a polarizer to the optical construct.	Exh. D, Figure 4 and Exh. E, p. 8, 1a and 1b describes some methods of bonding; Exh. E., p. 8, 2 describes a test to evaluate the bonding of the polarizer to the lens (a type of optical construct)
Claim 14: A method of manufacturing an optical-quality polarized part according to claim 13 wherein the step of admitting liquid-phase polymeric material into the mold cavity includes admitting such material onto one side of the polarizer.	Exh. C, p. 2, 5. "Polarized" identifies experiments to make polarized optical parts. Exh. C, p. 2, 6 "Filled back side" indicates filling onto one side of polarizer. Exh. D, Figures 1 and 3, step 30.
Claim 15: A method of manufacturing an optical-quality polarized part according to claim 13 wherein the step of admitting liquid-phase polymeric material into the mold cavity includes admitting such material onto both sides of the polarizer.	Exh. D, Figure 2, step 32.
Claim 16: A method of manufacturing an optical-quality polarized part according to claim 15 wherein the step of admitting liquid-phase polymeric material into the mold cavity includes admitting such material simultaneously onto both sides of the polarizer.	Exh. D, Figure 2, figure title and step 32.
Claim 17: A method of manufacturing an optical-quality polarized part according to claim 13 wherein the step of bonding the polarizer to the optical construct occurs after the step of forming the optical construct.	Exh. D, Figure 4; Exh. E, p. 8, 1b.
Claim 18: A method of manufacturing an optical-quality polarized part according to claim 13 wherein the polarizer comprises a polyethylene terephthalate film.	Exh. E, p. 5, 2. "Step 40" and "Figure 1" refer to Exh. D, Figure 1. (Exh. D, Figure 1 became **Fig. 3** of the patent application.)

Claim Text of 10/624,925	Supporting Evidence of Conception prior to November 2, 2000
Claim 19: A method of manufacturing an optical-quality polarized part according to claim 13 wherein: the sidefill gasket further includes one or more vent holes; and the step of forming includes venting gas and/or excess liquid-phase polymeric material from at least one side of the polarizer via the one or more vent holes.	Exh. E, p. 9, 1. The reference to "PCT/US 99/27807 identifies international application PCT/US 1999/027807, which is a companion to Younger Mfg. Co.'s US patent # 6,391,231 "Method of side-fill lens casting"
Claim 20: A method of manufacturing an optical-quality polarized part according to claim 13 wherein the optical construct is a lens formed with the polarizer at or near a front surface of the lens.	Exh. E., p. 8, 3. "material was admitted to only the region of the assembly behind the polarizer"; last two sentences describe a lens; Exh. E., p. 6, 3a describes introducing liquid polymer material on both sides of the polarizer. Exh. E, p. 6, 3b describes positioning the polarizer near (within 1.5 mm to 0.5 mm) of the front surface of the lens blank.
Claim 21: A method of manufacturing an optical-quality polarized part according to claim 13 further comprising the step of treating the polarizer for integral bonding to the optical construct.	Exh. E., p. 6, 2. "Step 10" refers to Exh. D, figure 2.
Claim 22: A method of manufacturing an optical-quality polarized part according to claim 19 further comprising the step of treating the polarizer for integral bonding to the optical construct.	Exh. E., p. 6, 2. "Step 10" refers to Exh. D, figure 2.
Claim 23: A method of manufacturing a polarized lens comprising:	Exh. B, 3. "NuPolar" identifies Younger Mfg. Co.'s trade name for polarized lenses.
positioning a polarizer within a mold cavity that is defined in part by a sidefill gasket including one or more inlet port holes	Exh. B, 4 and 5. "Double Port" and "2nd Fill Port Plugs up" identifies a sidefill gasket with at least two port holes.
and an adjacent reservoir; and	Exh. C, 4.
forming a high-impact polyurethane-based optical construct by admitting a liquid-phase polymeric material into the mold cavity via the one or more inlet port holes,	Exh. E, p. 6, 4. "Figure 2" and "step 32" refer to Figure 2 of Exh. D.
wherein the liquid-phase polymeric material is formulated to set within about 30 seconds,	Exh. E, p.5, 1. "At step 30" refers to Exh. D, Fig.1.
the reservoir thereafter supplying additional liquid-phase polymeric material into the mold cavity via the one or more inlet port holes as the previously admitted material shrinks during cure;	Exh. B, 2a and 2b; Exh. C, 4.
wherein the method forms a solid polarized lens with the polarizer at or near a front surface of the lens;	Exh. E, p. 8, 3; Exh. E, p. 6, 3a and 3b.
wherein the polarizer comprises a polyethylene terephthalate film.	Exh. E, p. 5, 2.
Claim 24: A method of manufacturing a polarized lens according to claim 23 wherein: the sidefill gasket includes one or more vent holes; and	Exh. E, p. 8, 3.

Claim Text of 10/624,925	Supporting Evidence of Conception prior to November 2, 2000
the step of forming includes venting gas and/or excess liquid-phase polymeric material from at least one side of the polarizer via the one or more vent holes.	Exh. E, p. 9, 1.
Claim 25: A method of manufacturing a polarized lens according to claim 23 further comprising a step of applying a hard coating to the surface of the polarizer.	Exh. E, p. 5, 3. "Step 60" refers to Exh. D, figure 1; Exh. E, p. 8, 1b. "Step 60" refers to Exh. D, figure 4.
Claim 26: A method of manufacturing a polarized lens according to claim 23 further comprising a step of treating the surface of the polarizer for integral bonding to the lens.	Exh. E, p.6, 2. "Step 10" refers to Exh. D, figure 2.
Claim 27: A method of manufacturing a polarized lens comprising: positioning a polarizer within a mold cavity that is defined in part by a sidefill gasket including one or more inlet port holes and an adjacent reservoir; and forming a high-impact polyurethane-based optical construct by admitting a liquid-phase polymeric material into the mold cavity via the one or more inlet port holes, wherein the liquid-phase polymeric material is formulated to set within about 30 seconds, the reservoir thereafter supplying additional liquid-phase polymeric material into the mold cavity via the one or more inlet port holes as the previously admitted material shrinks during cure; wherein the method forms a solid polarized lens with the polarizer at or near a front surface of the lens;	See Claim 23 supporting evidence above
and wherein the polarizer comprises a wafer.	Exh. E, p. 8, 3. "PC/PVA/PC wafer" at point c. in the RESULTS: Table identifies a polarizer of wafer construction.
Claim 28: A method of manufacturing a polarized lens according to claim 27 wherein: the sidefill gasket includes one or more vent holes; and	Exh. E, p. 8, 3.
the step of forming includes venting gas and/or excess liquid-phase polymeric material from at least one side of the polarizer via the one or more vent holes.	Exh. E, p. 9, 1.
Claim 29: A method of manufacturing a polarized lens according to claim 27 further comprising a step of applying a hard coating to the surface of the polarizer.	Exh. E, p. 5, 3; Exh. E, p. 6, 1.
Claim 30: A method of manufacturing a polarized lens according to claim 27 further comprising a step of treating the surface of the polarizer for integral bonding to the lens.	Exh. E, p. 6, 2. "Step 10" refers to Exh. D, figure 2.

Claim Text of 10/624,925	Supporting Evidence of Conception prior to November 2, 2000
Claim 31: A method of manufacturing an optical-quality polarized part according to claim 13 wherein: the one or more inlet port holes of the sidefill gasket include a plurality of inlet port holes; and the step of admitting liquid-phase polymeric material into the mold cavity includes admitting such material via the plurality of inlet port holes onto both sides of the polarizer.	Exh. E, p. 6, 3a, 3b and 4.
Claim 32: A method of manufacturing a polarized lens according to claim 27 wherein: the one or more inlet port holes of the sidefill gasket include a plurality of inlet port holes; and the step of admitting liquid-phase polymeric material into the mold cavity includes admitting such material via the plurality of inlet port holes onto both sides of the polarizer.	Exh. E, p. 6, 3a, 3b, 4 and 5.

EXHIBIT B

PHOENIX -

- FILLED 10 - 6200 IMAGE - FILL TIME 16 SECONDS 1
  - NO OBVIOUS ISSUES
  - NEED RESERVOIR ON GASKET 2a
  - FILLS WITH CLAMPS.
  - SETTING 166
  - BUBBLES RESULT OF Ø RESERVOIR 2b
  - FILLED 45° BEST

3 4

- N. POLAR - DOUBLE PORT - RADIANT ASSEMBLY - FILM WETTING
  - FRAGMENTS TO GLASS
  - CAN'T FILL AT 152° DUE TO USUAL WITH FILM IN PLACE
  -

PLUG - NEED MORE PLUGS. -
- 2nd FILL PORT PLUGS UP. 5
- FILM SIDE MUST BE SMALL. NO WELDED - RESULT IN WRINKLES
- MESSY!

Exhibit B

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EXHIBIT C

FILL TIME APPROX 13 SEC 1

FILLS SV 20

FM35 10

PROGRESSIVE 10

USED STOP | START TO FILL ASSEMBLIES (POST CONTROL BETTER)

- NO ISSUES. SLIGHT OVERFILL
- ONLY OCCASIONAL BUBBLE MAY BE DUE TO.
  - ANGLE OF FILL - NOZZLE TO GASKET
  - NOT GREATEST SIZE NOZZLE | GASKET
  - POSITION OF FILL PORT (CLOSER TO BACK) 2

    EARLY DESIGN GASKET $\boxed{OD}$ BETTER VERY FEW BUBBLES 3
  - STOP | START PROCEDURE
  - GASKET RESERVOIR OPENING TOO SMALL RESULTING IN SLIGHT CAVITATION 4

Exhibit C
page 1 of 2

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5

POLARISED: I FILLED ALL PARTS

- FILLED BACK SIDE PRIOR TO FILLING RIGHTS PARTS 6
    - LET STAND FOR 2-3 MINUTES
    PLACED ON TRAY / INTO OVEN AT 250°F
        - * OVEN TOO HOT FOR GASKET
- PURGED MACHINE AT END OF RIGHTS PARTS.
- I PULLED FRONT MOLD UP USING WOODEN STICK
    MOLD AT TOP EDGE OF GASKET
- IMAGE MORE DIFFICULT
- FILLED FRONT SIDE WITH ANGLED NOZZLE.
    - HORIZONTAL WOULD HAVE BEEN BETTER
    - OVERFILLED FIRST FEW - LOT OF WASTE
- FRONT FILLED OK WITH VENT OPPOSITE
- . REDUCED FRONT FILL - BETTER

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EXHIBIT D

Figure 1: Manufacturing flowchart for one-sided fill of optical polarized part

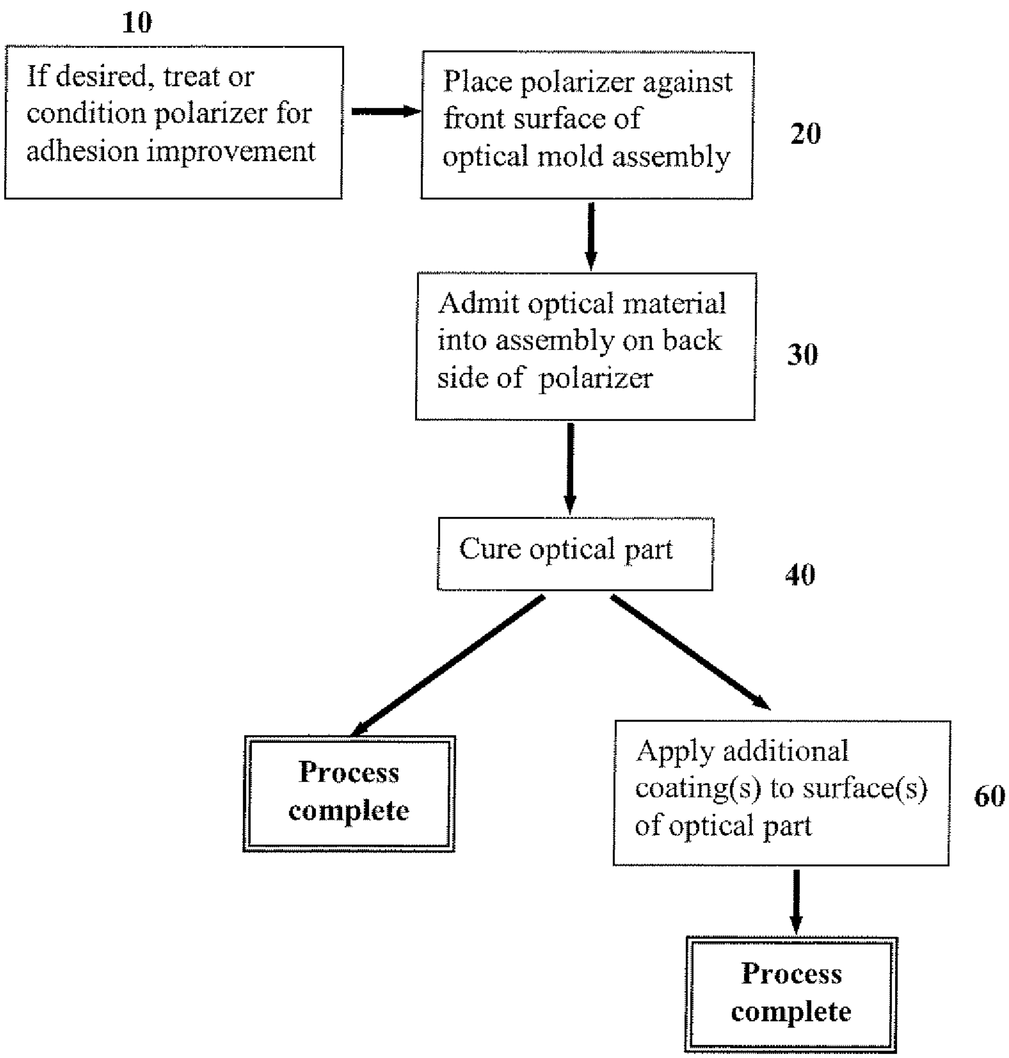

Exhibit D
page 1 of 4

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Figure 2: Manufacturing flowchart for two-sided simultaneous fill of optical polarized part

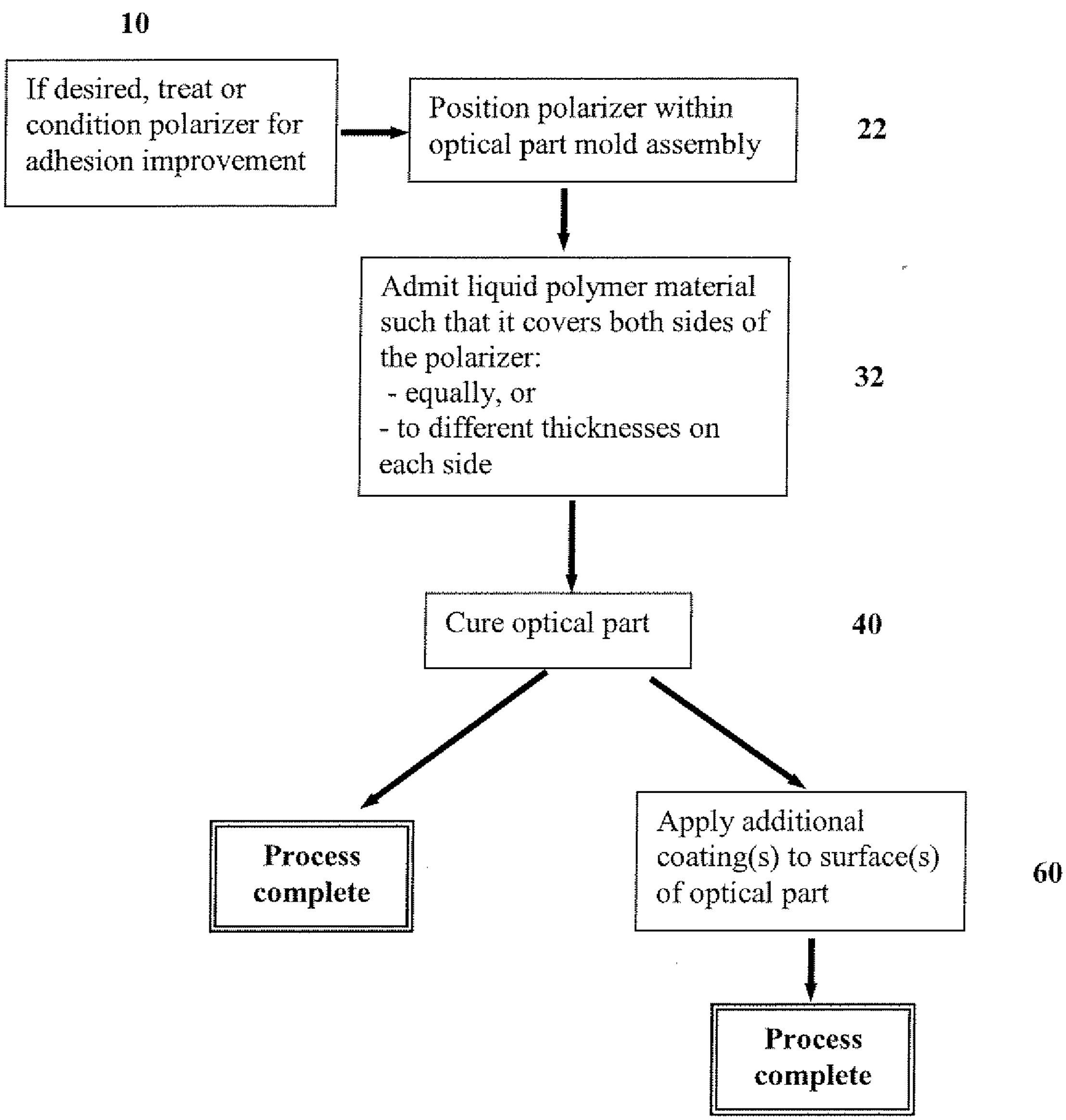

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Figure 3: Manufacturing flowchart for two-sided sequential fill of optical polarized part

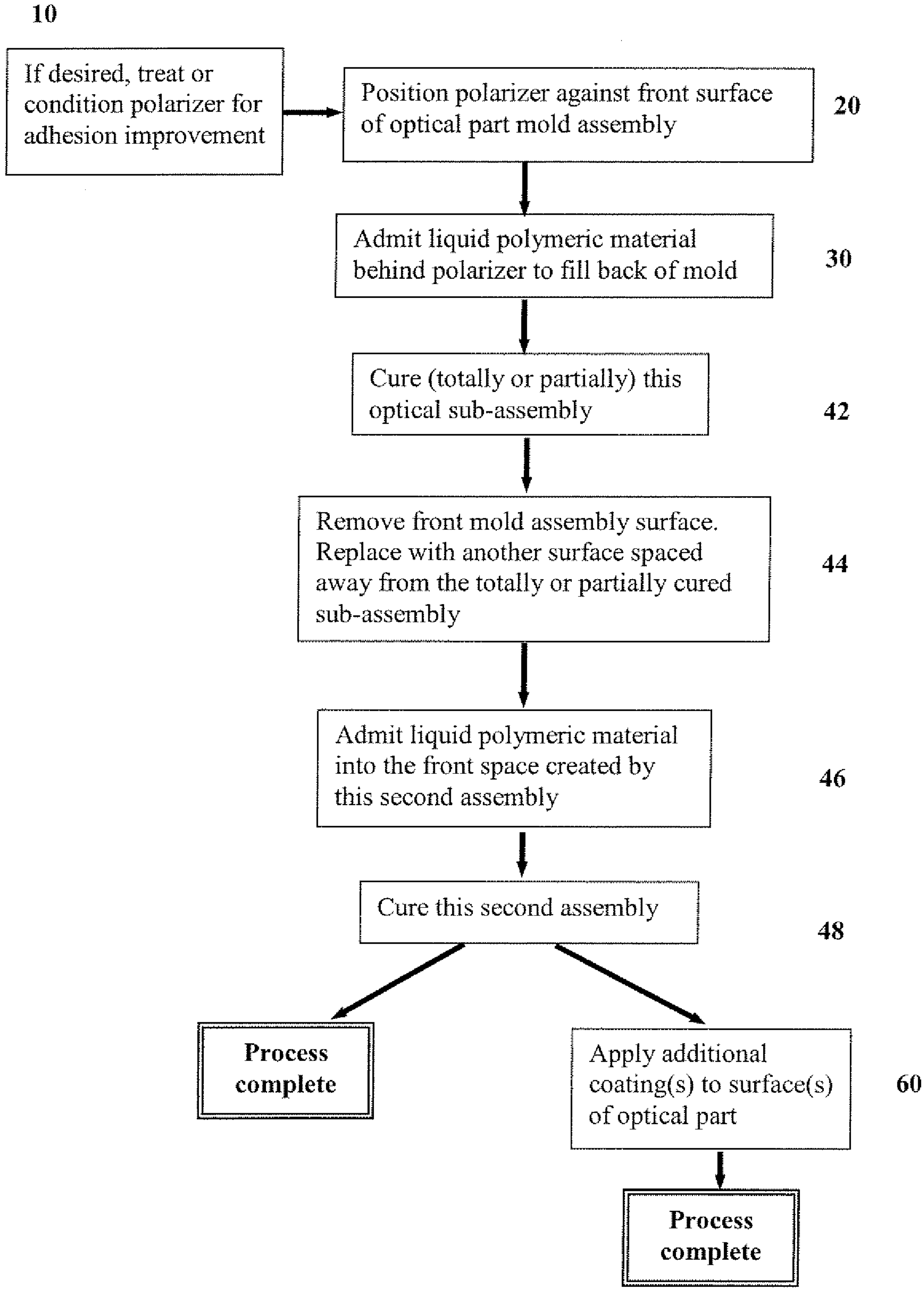

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Figure 4: Manufacturing flowchart for addition of PET-type polarizer to pre-existing solid optical part

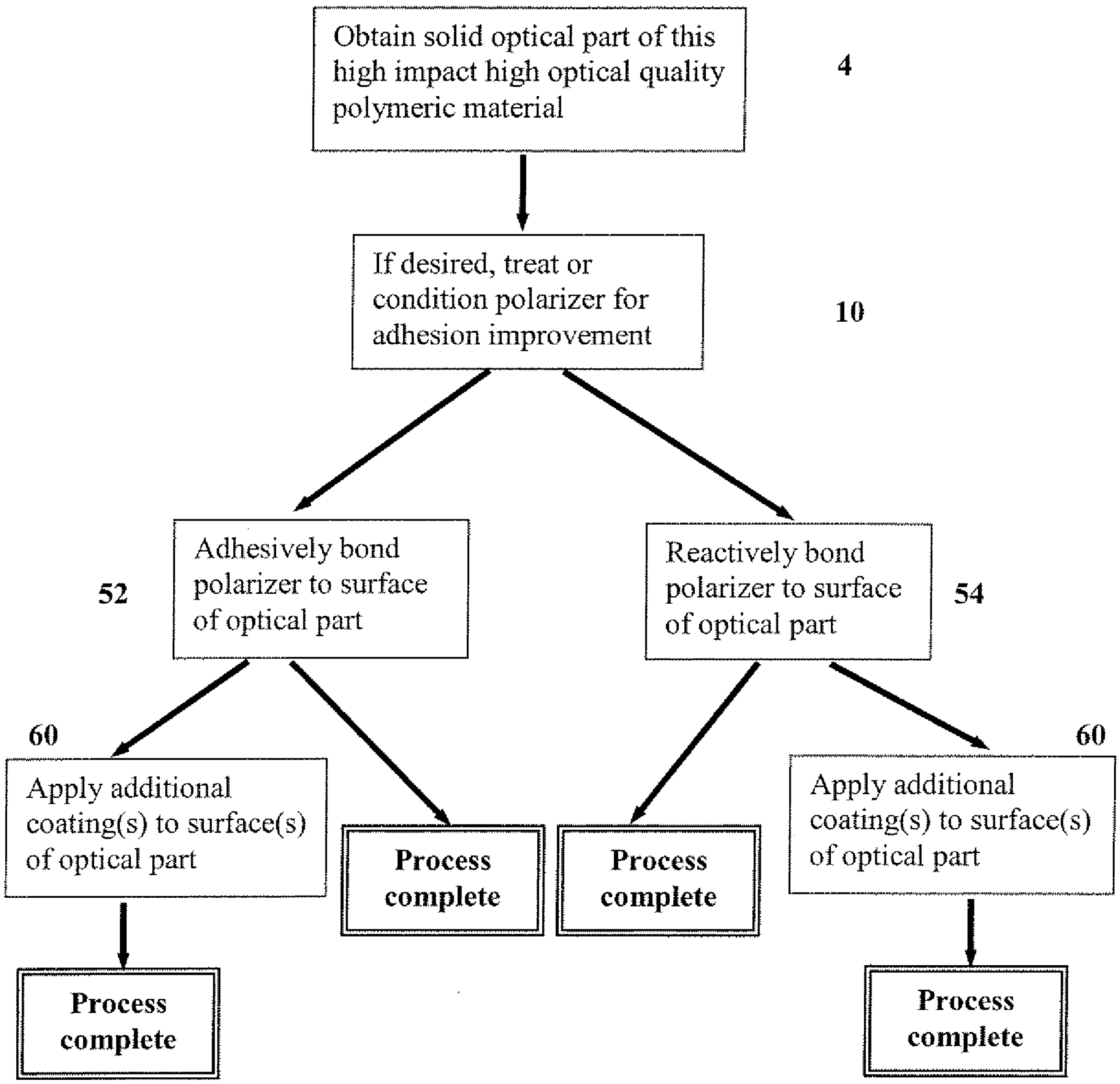

Exhibit D
page 4 of 4

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EXHIBIT E

Polarized eyewear using high impact, high optical quality polymeric material

Inventors: **Russell Evans, Thomas Balch, Nancy Yamasaki**

Background of the invention:

The field of the present invention relates to the use of a high impact, lightweight, high optical quality polymeric material in polarized optical parts, particularly eyewear. [0002]

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At step 30, the optical material is introduced into the mold assembly. This polymeric material has a viscosity of approximately 1000 centipoise. It is commonly maintained prior to use as two pre-mixed components held at room temperature(20-27°C) and slightly elevated temeprautre (53-66°C), respectively. When combined at the point of use, the mixture exothermically reacts and begins to solidify within 30 seconds. **1** [0047]

Two exemplary sequences for curing optical parts are: [0051]
1. Fill cavity of the mold assembly at room temperature. Within 10 minutes (when polymeric material has gelled to inhibit flow during movement), place the mold assembly in an oven at 121°C. Cure in assembly for 16-18 hours, then remove optical part from assembly. [0052]
2. Fill cavity of the mold assembly at room temperature. Place assembly in oven at 121°C for 3 hours. Remove optical part from assembly and continue curing part in a 121°C oven for an additional 15 hours. [0053]

Step 40 may be the final step in Figure 1's manufacturing process if the resultant part is sufficiently robust for its intended optical environment. Sufficient robustness is determined by the polarizer chosen, and the intended use of the part. For instance, one could not use a PVA polarizer in the process of Figure 1 and end the process at step 40 if the part were exposed to water or high humidity in its intended use: the polarized part would lose efficiency and the polarizer may deform or delaminate under humid conditions. However, depending on application, an outer PET polarizer layer, or polarized wafer may be sufficiently robust for expected wear. **2** [0054] partial

As an option, additional scratch-resistant or hard coatings may be preferred, and are indicated by step 60. Such coatings are normally applied to eyewear and other exposed optical parts to increase their lifetime in standard use, or to enhance their optical properties. These coatings may be applied to front, back or all surfaces (including edges) as needed to protect or enhance the parts. Similarly, different coatings may be applied to different surfaces (e.g., a scratch resistant coating on one surface, and a tinted or mirror coating on another). **3** [0055]

Several commercial coatings for enhanced scratch, rub and wear resistance, as well as increased environmental stability, are available for ophthalmic lenses or other optical parts. Such coatings may be [0056]

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applied in the liquid state by roll, spin or dip coating, for example. Depending on the chemistry of the coating solution, the liquid film is converted to a harder, solid layer by thermal, ultraviolet, infrared or other means of irradiation, reactive initiators or other reactive methods. Vacuum-deposited coatings may be applied as an alternate to the liquid coating, or in addition to cured liquid coatings. Such vacuum coatings may provide additional protection from physical wear, environmental degradation, or further control of the optical properties of the part. For instance, the liquid or vacuum deposited coatings may alter light throughput in a particular energy region, to give anti-reflective or reflective (mirror) properties, alter the perceived color of the part, or reduce exposure to e.g., infrared or ultraviolet emissions. [0056]

This coating is then the final step in the basic manufacturing process. For the process outlined in Figure 1, the final coating step 60 can provide preferred properties for optical parts constructed with e.g., PET, PVA and wafer polarizers. **1** [0057] partial

Figure 2 outlines a manufacturing process that positions the polarizer within the bulk of the optical part. This manufacturing approach may be used for better environmental and wear protection for delicate polarizers (such as PVA films) or for demanding applications. For example, certain applications may benefit uniquely from protecting the polarizer securely within the impact resistant polymeric material. These could include safety or shielding helmets, goggles, or glasses, or display and window applications that may be subjected to high wind, pressure, vacuum, or other harsh conditions. [0058]

Step 10 as previously allows treatment, conditioning, coating or other preparations of the polarizing medium for enhanced adhesion and/or integral bonding within the optical part. In this manufacturing process, it may be most preferred to prepare both surfaces of the polarizer for improved adhesion. This can be accomplished, for example, by dip coating for a liquid surface treatment, by simultaneous or sequential exposure for irradiation treatment, and by sequential or simultaneous physical roughening, cleaning, or conditioning of the surface. **2** [0059]

At step 22 of Figure 2, the polarizer is positioned and supported within the mold assembly such that liquid polymer material may be introduced on both sides of the polarizer. This means that the polarizer is not resting against either of the outer molding surfaces. The invention of Application 09/447,445 describes suitable gaskets to support and securely position the polarizer within the thickness of such an assembly. Depending on the final use of the optical part, the polarizer may be positioned equidistantly from each outer molding surface, or nearer one surface than the other. For example, to form a semifinished ophthalmic lens blank (commonly 6-15 mm total thickness), it is preferable to position the polarizer within 1.5 mm to 0.5 mm of the front molding surface. This ensures that the lens blank can be ground to prescription without cutting into the polarizer, even for lenses with a final center thickness of 2.2-1.8 mm. However, for display or non-prescription eyewear applications, it may be preferable to place the polarizer equidistant within the optical part for optimal protection on both sides of the polarizer. **3a** [0060] **3b**

To form the optical polarized part described in Figure 2, liquid polymeric material is introduced on both sides of the polarizer at step 32. The gasket of 09/447,445 allows simultaneous introduction of material on both sides of the polarizer layer

Similarly, the filling throughhole(s) may be specifically designed to admit equal or differential distribution of the material around the polarizer, as required to achieve equal or dissimilar thicknesses of polymeric material on the front and back surfaces of the polarized optical part. **4** [0061] partial

Step 40 is identical to the previous process, and may be the final, manufacturing step for some optical parts. Since Figure 2 describes a process that encapsulates the polarizer, this may yield a sufficiently robust part with PET, wafer and even the more environmentally sensitive PVA-type polarizers. **5** [0062]

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One or both surfaces may be treated, depending on whether the PET polarizer will form the outer surface (one-sided treatment preferred) or undergo further coating. [0072] partial

Steps 52 and 54 define two different methods to combine the solid optical part with the PET polarizer. In step 52, an optical adhesive is used to bond the polarizer to the optical part's surface. A two-part optical adhesive such as HE 17017 available from Hartels Plastics may be used. Step 54, in contrast, involves the reactive treatment or modification of the optical part to effect adhesion to the polarizer. This is a less preferred approach, because such treatment may damage the optical quality of the part (e.g., etching leads to surface roughness and scatter), or the physical integrity of the part (e.g., chemical or physical surface and subsurface damage weakens the part toward later chemical or environmental resistance). **1a** [0073]

For applications with limited handling and exposure, bonding a stable polarizer, for example the PET-type polarizer, to the existing part may be the final step in this manufacturing process. If more wear-resistance is required, coatings may be added in Step 60 following either bonding process. **1b** [0074]

Examples:

For convenience and economy, thermoset mold assemblies were used in the following examples. [0076]

Adhesion of the lens/film combination was evaluated by cutting a narrow cross-section of the lens, scoring into the lens from the back almost to the front surface, and then breaking the lens along the score line to determine where adhesion is lost. In a few instances, the intrinsic cohesiveness of the polarizer was exceeded before the lens delaminated. This means that a very strong bond was achieved. For weaker bonds, adhesion failure often occurs at the interface between the polarizer and one of its protective layers (for a multilayer construct), or between the polarizer and the main lens surface. **2** [0077]

Example 1. A conventional thermoset mold cavity was assembled with a polarizer mounted within the lens cavity. The high impact material was introduced into the cavity and allowed to flow around the polarizer. The lens was allowed to solidify at room temperature for <10 minutes (until mixture gels). The lens was allowed to continue its reactive cure at 121°C for 16 hours. [0078]

RESULTS: [0079]

	Polarizer type	Displacement of polarizer?	Adhesion
a.	PVA polarizer film, treated for adhesion	Yes-unacceptable	-

Example 2. Manufacturing method as described in Figure 1. A thermoset mold cavity was assembled with the polarizer resting against the front mold surface. Using a gasket design as described in 09/447,445 with vent holes in addition to a filling port, material was admitted to only the region of the assembly behind the polarizer film. The lens was allowed to solidify at room temperature for <10 minutes (until mixture gels). The lens was placed in an oven to continue its reactive cure at 121°C for 16 hours. **3** [0080] partial

RESULTS: [0081]

	Polarizer type	Displacement of polarizer?	Adhesion
a.	PET polarizer film UV treated on back surface only	No	delaminated with edge pressure
b.	PET polarizer, untreated	No	Poorer adhesion than a.
c.	PC/PVA/PC wafer	No	Yes- PASSED TEST

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Example 3. Manufacturing method as in Figure 2. A thermoset mold cavity was assembled with a polarizing layer using a gasket design as described in PCT/US 99/27807. Specifically, a slot-shaped port hole acted as the fill port to introduce, in a controlled manner, the thermosetting resin material along the edge axis of the embedded layer. Two port holes functioning as vent holes were located above the edge axis of the embedded material, i.e., on the thinner side of the lens to allow egress of any gases from the front surface of the lens. An additional vent port was located below the edge axis of the embedded material on the thicker side of the lens to allow egress of any gases from the back lens surface. A curved fill nozzle designed to match the slot-shaped fill port was used to introduce material into the cavity around the polarizing layer until the cavity was full and a small amount of material flowed out of the egress holes. After standard curing as in Example 1, the gasket was removed. **1** [0082]

RESULTS:

	Polarizer type	Displacement of polarizer?	Adhesion	
				[0083]
a.	PVA polarizer film	Some displacement	Yes	

No gas bubbles were entrapped in the lens during this manufacturing process. [0084]

Remainder Redacted through end, page 13

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